

Plunger Sundial

Materials

A toilet plunger
Different colored Paint (to decorate the plunger)
Paint brushes
Chalk
Sunny Day

Step 1

Have students decorate their plungers to create their own unique sundials.

Step 2

Set the plunger on the sidewalk and trace the circular bottom with chalk so it can be returned to its original position should it be moved. The plunger should be placed in a spot where it will not be in shadow at any time during the day or as little as possible.

Step 3

Mark the position of the very top of the shadow with an "x" and mark the exact clock time that the "x" was marked. Continue marking the top of the shadow every 30 or 60 minutes throughout the day. Note how the length of the shadow changes over the day.

Extending the Activity

Your sundial will be accurate for many weeks, but as the seasons change, the location of the shadows will no longer match your original marks. To observe this:

- Make a scale model of your sundial on a piece of paper. Mark the date of your sundial and record the measurements of the lengths of the shadows at each recorded time.
- About two months later, repeat this process and compare how the shadows have changed.